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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,012	03/15/2004	Philip J. Lingle	3691.663	6810

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EXAMINER	
BLACKWELL, GWENDOLYN A	

ART UNIT	PAPER NUMBER
1775	

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/800,012	LINGLE ET AL.	
	Examiner	Art Unit	
	Gwendolyn Blackwell	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6-15 and 19-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-15 and 19-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 6-15, and 19-24 are pending and examined on the merits.

2. The limitations regarding the low sheet resistance in combination with the visible transmission as set forth in independent claims 1 and 15 will receive the benefit of the March 15, 2004 filing date.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 6-15, and 19-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13, 16-24, 27, and 29 of copending Application No. 10/787,823. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending claims are encompassed by claims 1-21 of the present application. Because the structure of the copending claims is encompassed by those of the present application, it would be expected that those physical properties claimed would also be present.

1. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

2. Claims 1, 6-15, and 19-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-40 of copending Application No. 10/797,561. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending claims are encompassed by claims 1-21 of the present application. Because the structure of the copending claims are encompassed by those of the present application, it would be expected that those physical properties claimed would also be present.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. Claims 1, 6-15, and 19-24 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-34 of copending Application No. 10/797,580. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending claims are encompassed by claims 1-31 of the present application. Because the structure of the copending claims are encompassed by those of the present application, it would be expected that those physical properties claimed would also be present.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102/103

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 7-15, and 20-24 are rejected under 35 U.S.C. 102(a) as being anticipated by or in the alternative under 35 U.S.C. 103(a) over United States Patent Application Publication no. 2004/0005467, Neuman et al.

Regarding claims 1 and 15

Neuman et al disclose a heat treatable coated article with zinc oxide inclusive contact layers. The heat treated coated article can be part of windows or laminated windshields, (page 3, section 0027). The multilayered coating is comprised of:

silicon nitride/1st lower contact layer/IR reflecting layer/1st upper contact layer/dielectric layer/silicon nitride/2nd lower contact layer/IR reflecting layer/2nd upper contact layer/dielectric layer/protective dielectric layer

wherein the lower contact layer is a zinc oxide inclusive layer, the IR reflecting layer is comprised of silver, and the upper contact layer is an oxide of NiCr, (page 4, sections 0034-0038). Monolithically the sheet resistance after heat treatment is less than or equal to 2.5 ohms/square, which would encompass 2.1, with a corresponding visible transmission of 85% which is calculated from T_{vsi}/R_s=34, (page 5, Table 3). Post heat treatment the coated substrate has a haze value of less than or equal to 0.35, which would encompass 3.0, (page 6, Table 6), meeting the limitations of claims 1 and 15.

The limitation of present claims 1 and 15 require that the sheet resistance is less than or equal to 2.1 which falls within the range of less than or equal to 2.5 set forth above. In the alternative, it would have been within the skill of one in the art at the time of invention to optimize the sheet resistance and haze value of the coated article in order to increase the visible transmission to sheet resistance ratio through the use of Si-rich silicon nitride inclusive layer used in combination with a zinc oxide inclusive layer to lower the sheet resistance. By increasing the ratio the solar performance and visible transmission of the coated article are increased, (page 3, sections 0026 and 0029-0031).

In the alternative, while there are no specific examples without the use of titanium oxide next to the glass substrate, it would have been within the skill of one in the art at the time of invention to leave out the titanium oxide layer as it is considered an optional layer, (page 4, section 0034).

Regarding claims 7 and 20

The silicon nitride layers can be silicon rich and non-stoichiometric represented by Si_xN_y wherein x/y may be from 0.76-1.5, (page 4m section 0040), meeting the limitations of claims 7 and 20.

Regarding claims 8-12 and 21

Tin oxide with an overcoat of silicon nitride is formed over the 2nd upper contact layer, (page 4, section 0042), meeting the limitations of claim 8. Tin oxide can also be located between the 1st IR reflecting layer and the second layer comprising silicon nitride, (page 4, section 0041), meeting the limitations of claim 9. An oxide of Ni and/or Cr acts as the 1st and 2nd upper contact layers, (page 4, section 0037), meeting the limitations of claim 10. The silicon and zinc targets are doped with about 10% aluminum, which results in silicon nitride inclusive and zinc oxide inclusive layers containing aluminum, (page 7, section 0064), meeting the limitations of claims 11-12. The IR reflecting layers are formed on the lower contact layers which are comprised of zinc oxide, (page 4, sections 0034 and 0038), meeting the limitations of claim 21.

Regarding claims 13 and 14

The layer comprised of an oxide of NiCr ranges in thickness from 10-100 angstroms with the second silicon nitride layer is comprised of 50-450 angstroms, (page 5, Table 1), meeting the limitations of claims 13-14.

Regarding claims 22-24

Because Neuman et al disclose that the coated invention can be used with a laminated windshield and that the only type of substrate used with the Neuman et al invention is based on glass, and since it is well known in the art that these particular types of coatings are placed between two substrates when laminated, that laminated windshield disclosed on page 3, section 0027 is considered to be comprised of two glass substrates with the coating of Neuman et al formed therebetween.

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies the applicant's claimed layer structure, the claimed physical relating to the visible light transmission is present in the prior art of record. Absent an objective showing to the contrary the addition of the claimed physical property to the claim does not provide a patentable distinction over the prior art of record, meeting the limitations of claims 22-24.

Claim Rejections - 35 USC § 102

4. Claims 15, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 6,472,072, Ebisawa et al.

Regarding claim 15

Ebisawa et al disclose a glazing panel for incorporation in a laminated vehicle windscreen, (column 7, lines 34-36), having the following layer structure:

	Reference number	Geometrical thickness	Atomic ratios
Glass substrate	10	2 mm	
Base dielectric comprising:	11		
AlSixNy	12	85 Å	Si/Al = 0.8
ZnAlOx	13	240 Å	Al/Zn = 0.1
Ag	15	100 Å	
ZnAl overlying barrier	16	10 Å	Al/Zn = 0.1
Central dielectric comprising			
ZnAlOx	17	800 Å	Al/Zn = 0.1
Ag	19	115 Å	
ZnAl overlying barrier	20	15 Å	Al/Zn = 0.1
Top dielectric comprising:			
ZnAlOx	22	150 Å	Al/Zn = 0.1
AlSixNy	23	80 Å	Si/Al = 0.8

wherein the visible transmission post heat treatment is 77% with a haze value of 0.21, (columns 8-9, lines 33-15). When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01.* Because the prior art exemplifies Applicant's claimed multilayered coating structure, the claimed physical properties relating to sheet resistance of the coated substrate are inherently present in the prior art. Absent an evidentiary showing to the contrary, the addition of the claimed physical properties to the claim language fails to provide patentable distinction over the prior art of record, meeting the limitations of claim 15.

The limitations of presents claim 15 that the visible transmission is at least 80%, respectively, which falls within the light transmission of 70-80%, (column 3, lines 12-18). Absent a showing of criticality with respect to the visible transmission (a result effective variable), it would have been obvious to a person of ordinary skill in the art at the time of the invention to adjust the visible transmission of the laminate through routine experimentation in

order to achieve a coated article which has the required optical characteristics. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 19 and 21

The haze value preferably does not exceed 0.30, (column 3, lines 30-34), meeting the limitations of claim 19. From the layer structure set forth above, the Ag layers are contacting the layers comprised of zinc oxide, (column 7, lines 33-55), meeting the requirements of claim 21.

Claim Rejections - 35 USC § 103

9. Claims 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication no. 2004/0005467, Neuman et al as applied to claims 1 and 15 above.

Regarding claims 1 and 15

The limitations of claims 1 and 15 are set forth above. Neuman et al does not specifically disclose that the haze value is less than or equal to 0.30.

Regarding claims 6 and 19

The limitations of present claims 6 and 19 require that the haze value is less than or equal to 0.30 which falls within the range of less than or equal to 0.35 as set forth above. Absent a showing of criticality with respect to the haze value (a result effective variable), it would have been obvious to a person of ordinary skill in the art at the time of the invention to adjust the haze value through routine experimentation in order to achieve a coated article which has the required optical characteristics, such as a high visible light transmission. It has been held that discovering

an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

5. Claims 15, 19 and 21 are rejected under 35 U.S.C. 103(a) over United States Patent no. 6,472,072, Ebisawa et al.

Regarding claim 15

Ebisawa et al disclose a glazing panel for incorporation in a laminated vehicle windscreen, (column 7, lines 34-36), having the following layer structure:

	Reference number	Geometrical thickness	Atomic ratios
Glass substrate	10	2 mm	
Base dielectric comprising:	11		
AlSixNy	12	85 Å	Si/Al = 0.8
ZnAlOx	13	240 Å	Al/Zn = 0.1
Ag	15	100 Å	
ZnAl overlying barrier	16	10 Å	Al/Zn = 0.1
Central dielectric comprising			
ZnAlOx	17	800 Å	Al/Zn = 0.1
Ag	19	115 Å	
ZnAl overlying barrier	20	15 Å	Al/Zn = 0.1
Top dielectric comprising:			
ZnAlOx	22	150 Å	Al/Zn = 0.1
AlSixNy	23	80 Å	Si/Al = 0.8

wherein the visible transmission post heat treatment is 77% with a haze value of 0.21, (columns 8-9, lines 33-15). Because the prior art exemplifies Applicant's claimed multilayered coating structure, the claimed physical properties relating to sheet resistance of the coated substrate are present in the prior art. *MPEP 2112.01.* Ebisawa et al does not specifically disclose an example that the visible light transmittance is at least 80%.

The limitations of present claim 15 that the visible transmission is at least 80%, respectively, which falls within the light transmission of 70-80%, (column 3, lines 12-18). Absent a showing of criticality with respect to the visible transmission (a result effective variable), it would have been obvious to a person of ordinary skill in the art at the time of the invention to adjust the visible transmission of the laminate through routine experimentation in order to achieve a coated article which has the required optical characteristics. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 19 and 21

The haze value preferably does not exceed 0.30, (column 3, lines 30-34). From the layer structure set forth above, the Ag layers are contacting the layers comprised of zinc oxide, (column 7, lines 33-55).

Response to Arguments

10. Applicant's arguments, see pages 7-8, filed January 9, 2006, with respect to Hartig have been fully considered and are persuasive. The 102/103 rejection of claims 15 and 19-21 have been withdrawn.

11. Applicant's arguments filed January 9, 2006 have been fully considered but they are not persuasive with respect to the rejections made under Neuman and Ebisawa.

12. Applicant contends that Ebisawa cannot attain the sheet resistance and visible transmission as presently set forth in claim 15.

This is not persuasive as Ebisawa has specifically disclosed that the coated glazing could have a transmittance of about from 70-80% after heat treatment and a haze that preferably does not exceed 0.3 after heat treatment, (column 3, lines 4-46). As the layer structure of Ebisawa meets that of present claim 15, and the coated glazing could have a light transmittance of at least 80% after heat treatment with a haze of prefereably less than 0.3, it could be presumed that the sheet resistance of the coating would also fall within the range as exemplified by Applicant in claim 15. Absent an objective showing to the contrary, the physical properties as set forth in present claim 15 are present in the prior art to Ebisawa.

13. Applicant contends that Neuman cannot attain the sheet resistance or the visible light transmittance as presently set forth in claim 15.

This is not persuasive as Neuman has specifically disclosed that the sheet resistance can be less than or equal to 2.5 which would encompass 2.1. In addition, the corresponding Tvis/Rs value for a sheet resistance of 2.5 would give a visible light transmittance of at least 85%, (page 5, Table 3). Because Neuman discloses that the sheet resistance can be less than or equal to 2.5, it would have been within the skill of one in the art at the time of invention to optimize the sheet resistance of the coated article in order to increase the visible transmittance to sheet resistance ratio through the use of Si-rich silicon nitride inclusive layer used in combination with a zinc oxide inclusive layer to lower the sheet resistance. By increasing the ratio, the solar performance and visible transmission of the coated article are increased, (page 3, sections 0026 and 0029-0031).

14. For the reasons set forth above, the rejections of claims 1, 6-15, and 19-24 under Ebisawa and Neuman are maintained.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn Blackwell whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gwendolyn Blackwell
Examiner
Art Unit 1775

gab

JENNIFER MCNEIL
PRIMARY EXAMINER
3/20/06